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XV. *Account of the Stomach of the Gillaroo Trout. In a Letter from Mr. Henry Watson to Sir John Pringle.*

SIR,

Redde, Jan. 27, 1774. **T**HE request, you was pleased to make to me, in the name of the Royal Society, that, at my leisure, I would examine into the structure of the stomach of the Gillaroo trout, I shall now endeavour to comply with, in the best manner I am able.

The state, in which I received this stomach, did not admit of the most accurate examination; and the stomach of the common trout, sent to me at the same time, was so hardened, and shrivelled up, I could by no means unfold it, or draw any comparison between them.

The stomach of the Gillaroo trout may be divided, at least, into three coats;—an internal, a middle, and an external one.

The external is a kind of peritonæal covering, common to the stomach, intestines and other viscera.

The middle coat appears to be of a fibrous muscular texture, pretty thick in flesh, stronger than in the salmon; and of a yellowish colour.

The internal coat, has a rough, but not rugous surface. It is spongy and perhaps glandular, with a kind of honey-comb texture, and strong *villi*, a little similar to the internal appearance of the gall-bladder in the human subject; and no doubt would make an elegant figure, was it well injected. This, SIR, is the most, that I am at present able to observe upon the structure of this *viscus*.

But, as the stomach of the Gillaroo trout is supposed to perform the office of a gizzard, it may be necessary to examine a little, how far they agree.

The gizzard, in birds of the gallinaceous kind, is composed of large masses of flesh and tendon; between which lies the stomach, a strong, dense, cartilaginous, or horny bag, furnished with eminent *rugæ*, and deep furrows; but we have none of these appearances in the stomach of the Gillaroo trout; it does not shew the least resemblance, nor can I think it will bear any comparison, with the gizzard in fowls; nor is it at all conclusive, that the stomach of this trout performs the office of a gizzard, because several small snails were found within it; for might we not as well conclude, that the *cæca* annexed to the *duodenum*, and which are, in this fish, very numerous, and loaded with the same little shells, do the offices of so many gizzards? But we know that these *cæca* are glandular pouches, and do the office of a *pancreas*.

If the stomach of the Gillaroo trout does not appear, to correspond with the structure of the gizzard in fowls, neither does it agree, in every respect, with

with the appearances commonly observed in fishes. It is indeed membranous and muscular, but its internal surface is not so smooth, white, and polished; nor is it made up into large folds, or plaits, as we commonly find it in most fishes; in some indeed, more resembling a gut, than a stomach: but the internal surface, in the stomach of the Gillaroo trout, is rough, and over-spread with *villi*, which are so strong, they may be easily seen with the naked eye, and which I have never observed in the stomach of any other fish.

Upon the whole, we may venture to conclude, that there are some singularities, in the structure of the stomach, which may perhaps be peculiar to the Gillaroo trout.

If, in the best manner I have been able to prepare this stomach, you should think it worth preserving, I hope it may possess a corner in the Museum of the Royal Society. I am,

SIR,

with great respect,

Your most obedient,

humble servant,

HENRY WATSON.

Rathbone-place,
19 Jan. 1774.